

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:

Paulus DE LANGE et al.

Serial No.: 09/763,355

Filed: February 21, 2001

For: FLUIDIZED BED METHOD AND REACTOR FOR THE TREATMENT OF  
CATALYSTS AND CATALYSTS CARRIERS

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OF

**TRANSMITTAL OF ENGLISH TRANSLATION OF  
INTERNATIONAL PRELIMINARY EXAMINATION REPORT**

Commissioner for Patents  
Washington, D.C. 20231

March 20, 2001

Sir:

Submitted herewith is an English Translation of the International Preliminary Examination Report for International Application PCT/EP99/07837.

It is not believed that any fee is required in connection with this Transmittal. Nevertheless, the Director is authorized to charge our Deposit Account No. 50-1258 in the amount of any such required fee.

Respectfully submitted,

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English Translation of International Preliminary Examination Report

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**Re. Point IV**

**Lack of unity of the invention**

The subject-matter of the application lacks unity under Rule 13.1 PCT

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The different inventions/groups of inventions are the following:

- a) A process for the treatment of catalysts and a reactor for carrying out this process (Claims 1-10).
- b) Polyolefins prepared by means of catalysts which have been treated in accordance with the process of Claim 1 (Claim 11).

The catalyst forms the only idea which could link independent claims 1, 6 and 11 together. The novelty and inventive step of this idea are at present not evident. The regeneration of catalysts and their use in various catalytic processes is known as such in general terms. However, it has not been demonstrated in the application or in the letter of 29.02.2000 that a catalyst treated in accordance with Claim 1 should be novel and inventive.

The applicant was requested in the notice of 13.07.2000 either to communicate which invention should form the basis of the further proceedings in this application and to restrict the application correspondingly, or to pay an additional examination fee. In his letter of 25.07.2000, the applicant deleted the originally submitted Patent Claims 7 and 13 which were objected to as lacking unity.

With the letter of 14.11.2000, the original Claim 13 was added again as new Claim 11. For the re-introduction of this claim, the applicant referred to decision W 16/00 by the Board of Appeal.

The examining authority does not have to take this decision into account in this case. The decision relates exclusively to the grounds presented by the search authority. The Board of Appeal in no way found unity. The grounds presented by the examining authority have not been contested in this decision. The objection is maintained since the applicant has not commented on the novelty

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and inventive step of the catalysts treated in accordance with the process of Claim 1.

The examining authority will therefore not comment on the subject-matter of Claim 11.

**Re. Point V**

Reasoned ruling under Rule 66.2(a)(II) regarding novelty, inventive step and commercial utility; documents and explanations in support of this ruling.

1. The following documents are cited:

D1: US-A-4 038 038 (BONN DORRANCE P, STRICKLAND JOHN C, MACLEAN JOHN P, MAY DOUGLAS H JR) 26 July 1977 (1977-07-26)  
D2: US-A-4 518 750 (GOVONI GABRIELE ET AL) 21 May 1985 (1985-05-21)  
D3: EP-A-0 101 893 (BASF AG) 7 March 1984 (1984-03-07)  
D4: US-A-4 229 608 (CHEN NAI Y, HAAG WERNER O, LAGO RUDOLPH M) 21 October 1980 (1980-10-21)

2. The subject-matter of Claims 1 to 10 is not novel in the sense of Article 33(1) and (2) EPC.
3. The subject-matter of Claims 1 to 10 is not novel over D1. The declaration of a later use of the treated catalyst is not a technical feature of the process according to Claims 1 to 5 of the application and therefore does not ask for any restriction from the prior art. The claim also relates to the treatment of the pure catalyst support.

D1 discloses a reactor according to Claim 6 of the application. In this reactor, catalyst according to Claim 1 is regenerated. The reactor base has a conical shape. See Figure 1 and column 1, line 60, to column 5, line 55.

The apparatus contains two cyclones.

Additional gases are introduced (Figure 1: 111 and 112, column 4, line 26, to column 5, line 17).

The cone angle is between 30 and 45° (column 3, lines 4-11).

The subject-matter of Claims 1 to 10 thus lacks novelty.

4. The subject-matter of Claims 1, 2 and 6 to 8 furthermore also lacks novelty over D2 (Figures 1 and 3). The separation element is denoted by 14 (see also column 3, lines 9-17, and column 6, line 17).

A cyclone and the separation element from D2 fulfil *prima facie* the same function. The person skilled in the art would therefore [lacuna] the inclusion of this cyclone into the reactor described in D2 as a conventional design measure for the separation of gases and particles. The subject-matter of Claim 10 is thus not based on an inventive step over D2 (Article 33(1) and (3) EPC).

5. D3 discloses a reactor according to Claims 6 to 8 and a process according to Claims 1 and 2 (Figure, page 2, line 11, to page 3, line 3, page 3, lines 16-18, page 3, lines 29-31). The gases are fed in and discharged continuously (page 5, lines 24 to 30). The entrained solids particles are separated off.

The use of a cyclone can be regarded as a conventional design measure in this case too. The subject-matter of Claim 10 is not based on an inventive step over D3 (Article 33(1) and (3) EPC).

#### **Re. Point VIII**

Certain comments on the international application

1. The term "treatment" used in Claim 1 is vague and unclear and leaves the reader unclear about the importance of the technical feature in question. This has the consequence that the definition of the subject-matter of this claim is not clear and that a clear delimitation from the prior art (for example D) is not possible (Article 6 PCT).

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In his letter of 14.11.2000, the applicant, in the discussion of inventive step, indicated some differences which could not be taken into account since they were not included in Claim 1.

2. The declaration of a later use of the treated catalysts is not a technical feature of the process according to Claims 1 to 5 of the application. The intended restrictions are therefore not clearly evident from the claim, in contradiction to the requirements of Article 6 PCT.

The definition of the catalysts (page 9, line 23, to page 10, line 2) is too general to facilitate a restriction from the prior art. The support materials mentioned can also be used for cracking catalysts.